VX-4100/4200 SERIES

VHF/UHF Mobile Radios

- HIGH POWER OUTPUT (50W VHF/45W UHF)
- WIDE FREQUENCY SPAN
  134-174 MHz (VX-4104/4204)
  400-470 MHz / 450-512 MHz (VX-4107/4207)
- 501 CHANNELS/32 GROUPS (VX-4200 SERIES)
- 8 CHANNELS (VX-4100 SERIES)
- LARGE LCD WITH 12-CHARACTER ALPHA-NUMERIC LABELS AND OPERATING STATUS ICONS (VX-4200)
- WIDE/NARROW DEVIATION (12.5/20/25 kHz), PROGRAMMABLE PER CHANNEL
- CTCSS AND DCS ENCODE/DECODE
- DTMF ANI AND PAGING
- 2-TONE ENCODE AND MULTIPLE 2-TONE DECODE
- 5-TONE SIGNALLING BUILT IN
- USER-SELECTABLE TONES
- INTEROPERABILITY RECEIVER (OPTIONAL MULTI BAND RECEIVER UNIT REQUIRES)
- CHANNEL SCAN PLUS PRIORITY SCAN, DUAL WATCH, AND FOLLOW-ME SCAN/DW
- BUILT-IN EMERGENCY MICROPHONE
- AUDIO COMPANDER (WIDE/NARROW-BAND)
- LOUD AUDIO OUTPUT FRONT SPEAKER
- BCLO, BTLO, AND TOT
- REMOTE RADIO STUN/KILL/REVIVE(5-TONE)
- PUBLIC ADDRESS/HORN ALERT
- PROGRAMMABLE MINIMUM VOLUME
- PROGRAMMABLE FUNCTION KEYS
- USER "SET" (MENU) MODE
- D-SUB 15-PIN ACCESSORY CONNECTOR
- ARTS™ (AUTO-RANGE TRANSPONDER SYSTEM)
- OPTIONAL ENCRYPTION
- OPTIONAL VOICE STORAGE
- MIL-STD 810 C/D/E

Vertex Standard
We make a difference

VX-4100/VX-4200

SERIES

Public Safety applications require three essential elements: reliability, ruggedness, and performance versatility. These three elements are found in the VX-4100 (8-Channel) and VX-4200 (501-Channel) series of FM Mobiles from Vertex Standard. New interoperability Receiver (Option), wide programmable frequency coverage, high power output (50 Watts VHF/45 Watts UHF), leading-edge signaling capability, and a 12-character alpha-numeric display are just a few of the many reasons why the VX-4100 and VX-4200 are the best choice for the most demanding Public Safety environments.

VX-4100 Series

VX-4200 Series

Actual Size

VX-4100 Series 8 Channels VHF/UHF Mobile Radios

3 PROGRAMMABLE FRONT PANEL KEYS

The programmable keys allow for customizing the radio to match your operating requirements. Programmable keys include (but are not limited to): Monitor, Home Channel, Direct Access (channel #), External Accessory Control, Scan, and many more. Configure the radio for your needs, and enjoy the operating efficiency without the complication of functions you don't need.

VX-4200 Series 501 Channels VHF/UHF Mobile Radios

5 PROGRAMMABLE FRONT PANEL KEYS

The [P1] - [P4] and [A] keys of the VX-4200 allow even more operating flexibility. The available functions include (but are not limited to): Monitor, Squelch, Dimmer, Home Channel, Direct Access (channel #), External Accessory control, and a host of others. Program in the features you need, and leave out the ones you don't.

HIGH CONTRAST LCD DISPLAY

The high contrast LCD allows for 12-character alphanumeric channel tags, enough characters to name the channel while still providing large character size. Besides the Channel and Group name, the display tells you Scan status, Power level, Priority Scan status, Voice Message (received) status, plus Channel and Group numbers in a sub display.

GENEROUS CHANNEL CAPACITY

If you need a lot of channels, we have you covered, with 501 channels assignable into as many as 32 groups. With no restrictions on how channels may be assigned into groups, you have complete flexibility, whether you need 15, 50, or 501 channels.

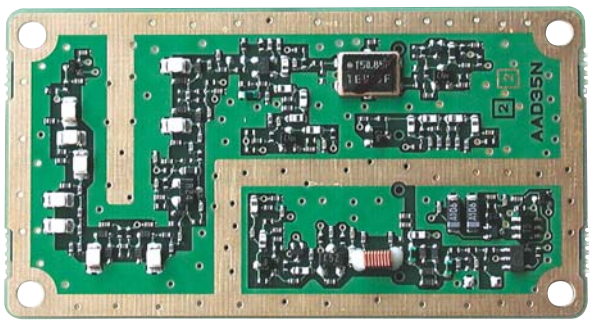
DIRECT CHANNEL ACCESS

Despite the 501-channel capacity of the VX-4200, we know you always have one or two channels that are your primary operating slots. So we provide for assignment of the programmable keys as (up to) four Direct Channel Access keys, so you can jump to an often-used channel instantly, even if it's in a different memory group.

VERSATILITY

INTEROPERABIILITY RECEIVER (OPTION)

VX-4100/4200 allows you to receive vital communications on multi bands for interoperability with multiple agencies. Improves the coordination of communications for first responders in emergency or day to day operations.



Multi Band Receiver Unit: SRX-1 for UHF, SRX-2 for VHF

POPULAR 2-TONE ENCODE AND DECODE FUNCTIONS

2-Tone encode and decode gives you the selective calling used nationwide. Encode and decode functions for the 2-tone format include multiple decode pairs as well as multiple encode tones. DTMF paging and identification is also built-in to allow selective paging and to see who is calling you.

BUILT-IN 5-TONE SIGNALLING

The 5-Tone signaling feature gives you many features found on much higher priced competitors. Features such as remote Stun, Kill, Revive. Remote listen (remote TX), 100 unique status messages, ANI Tag display, and many more.

REMOTE STUN/KILL/REVIVE

Need to disable a radio in the field? No problem. The VX-4100/4200 gives you the ability to Stun, Kill, and Revive over the air in the 5-Tone signalling. Another built-in feature you can use to your system's advantage.

OPTIONAL VOICE STORAGE
With the optional DVS-5 Voice Storage unit installed, you can hear page transmissions while away from the vehicle. When activated (programmable softkey), the voice storage unit waits for a page, then begins recording. Upon return, you will see the "Message Icon" alerting you of the page and message.

PROGRAMMABLE MINIMUM VOLUME
Another feature to ensure all calls are heard. The radio can be programmed for a minim volume level. If the radio is on, the minimum volume level will ensure the audio of a call will be heard.

HIGH PERFORMANCE

WIDE BANDWIDTH
For communicating with other agencies, companies, or even within your own communications system, the wide bandwidth of this radio will let you operate anywhere within the 40 MHz (VHF) or 70 / 62 MHz (UHF) band.

WIDE / NARROW (12.5 / 20 / 25 kHz PER CHANNEL)
The VX-4100/VX-4200 may be programmed with Wide or Narrow operating bandwidths, channel by channel, to conform to your local channel environment. Ideal for multi-jurisdiction operations.

AUDIO COMPANDING
For narrow-band channel applications, the built-in Audio Companding system compresses the voice waveform during transmission, and expands it during reception, allowing full-sounding audio despite the restricted transmission bandwidth.

LOUD AUDIO OUTPUT FRONT SPEAKER
The VX-4100/VX-4200's high-powered audio (2 Watts) is coupled to a large, front-facing speaker, producing high-quality, crisp audio that will punch through even in the noisy environments experienced by public safety officers.

VERSITILE SCANNING FEATURES
The VX-4100 provide scan of all or some of the eight channels programmed. Also, if a channel is flagged as Priority, that channel is monitored even during non-priority calls. Besides the normal Scan and Priority Scan modes, the VX-4200 adds Group Scan. You can scan all Groups or selected Groups.

ARTS™ (AUTO RANGE TRANSPONDER SYSTEM)
The Auto-Range Transponder System, a Vertex Standard exclusive, alerts the operator when another ARTS™ equipped station (for example, a hand-held unit) moves out of communication range. You can then advise the other user to move to a better location.

SECURITY

EMERGENCY MODE
When the Emergency feature is activated, the radio will switch to an emergency channel and transmit with live mic audio through a front panel mounted microphone. Among the many programmable features of the emergency mode are: Live TX time, RX Live time, RX dead time, and more.

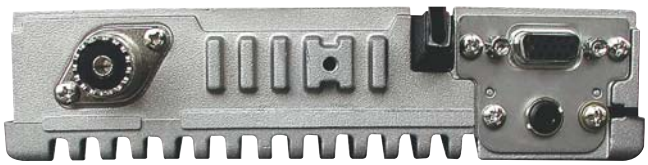
OPTIONAL VOICE ENCRYPTION MODULES
With options for simple inversion or rolling code, we have the right encryption level to fit your requirements and budget.

DURABLE CONSTRUCTION

BUILT TOUGH, BUILT TO LAST
Rugged design to meet MIL-STD 810 C/D/E will allow this radio to last. The Ultra-rugged design enables this mobile to pass a torrent of MIL-STD tests listed in this brochure. The extraordinary design and construction ensures many years of reliable service, even in high vibration, dusty or extreme temperature environments.

OTHER FEATURES

D-SUB 15 PIN ACCESSORY CONNECTOR
The included D-Sub 15 pin connector on the rear panel allows for access to Audio In, Audio Out, Ext PTT, RSSI, and many more functions making this radio perfect for third party interfaces.

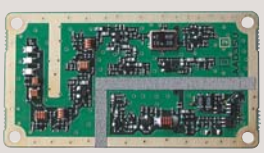
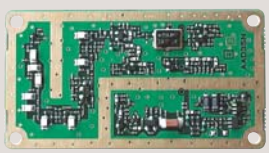
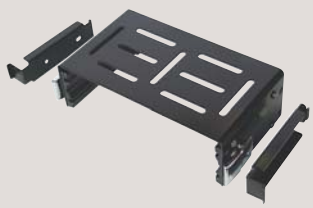


TOT, BCLO, BTLO FEATURES
Among the most useful protection features of the VX-4100/4200 are the transmitter Time-Out Timer (TOT), Busy Channel Lock-Out (BCLO), and Busy Tone Lock-Out (BTLO), to ensure efficient network performance at all times.

RADIO TO RADIO CLONE FEATURE
For quick programming of VX-4100/4200 radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-4100/4200 to another, using the optional CT-4 Cloning Cable.

- TALK AROUND
- PUBLIC ADDRESS/HORN ALERT

Accessories & Options

MH-25A8J	**MH-64A8J**	**MH-700D**	**MD-11A8J**
Standard Microphone	Remote Control 16 Keypad Microphone	DTMF Dial Microphone	Desktop Microphone
MLS-200	**MLS-100**	**FP-1023**	**FVP-25**
Mobile Loud Speaker (15 Watts Peak Power)	Mobile Loud Speaker (12 Watts Peak Power)	External Power Supply (13.6 VDC 23 A)	DTMF Paging + Encryption unit
FVP-35	**DVS-5**	**VT60F / VT60FS**	**MDC1200**
High Level Encryption Unit	Voice Storage Unit	VX-Trunk™ Unit (FS : w/Encryption)	ANI Signaling Unit
			
SRX-1	**SRX-2**	**MMB-85**	**LF-1**
Multi Band Receive Unit (450-512 MHz)	Multi Band Receive Unit (134-174 MHz)	Quick Release Mobile Mounting Bracket	Line Filter
VPL-1	**CT-4** (T9101411)	**CE59**	
Programming Kit (Computer to Radio)	Cloning Cable	Programming Software	

Specifications

	VX-4104 (VHF)	VX-4204 (VHF)	VX-4107 (UHF)	VX-4207 (UHF)
General Specifications				
Frequency range	134-174 MHz		400-470 MHz / 450-512 MHz	
Number of Groups	1	32	1	32
Number of Channels	8 channels	501 channels	8 channels	501 channels
Power Supply Voltage	13.6 VDC ±15 %			
Channel Spacing	12.5 / 20 / 25.0 kHz			
Current Consumption	TX:11.0 A RX:2.5 A STBY:0.3 A			
Operating Temperature range	−22° F to 140° F (−30° C to +60° C)			
Frequency Stability	Better than ±2.5 ppm			
RF Input-Output Impedance	50 Ohms			
Dimensions (WxHxD)	6.5 " x 1.7 " x 6.1 " (165 mm x 43 mm x 155 mm)			
Weight	3.1 lbs. (1.4 kg)			
Receiver Specifications	Measurements made per TIA/EIA-603			
Circuit type	Double conversion Super-heterodyne			
Sensitivity (12 dB SINAD)	0.25 µV		0.25 µV	
Adjacent Channel Selectivity	85/75 dB		78/70 dB	
Intermodulation	80/75 dB			
Spurious and Image Rejection	90 dB		80 dB	
Audio Output	int. 2 W @ 32 Ohms 5% THD / ext. 12 W @ 4 Ohms 5% THD			
Audio Distortion	<3 % @1 kHz			
Transmitter Specifications	Measurements made per TIA/EIA-603			
Power Output	50/25/10 W		45/25/10 W	
Modulation	16K0F3E, 11K0F3E			
Max Deviation	5.0/2.5 kHz			
Conducted Spurious Emission	75 dB below carrier			
Audio Distortion	<3 % @ 1 kHz			
Microphone impedance	600 Ohms			

Measurements per EIA standards unless noted above. Specifications subject to change without notice or obligation.

Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
High Temperature	501.1/Procedure II			
Low Temperature	502.1/Procedure I			
Blowing Sand & Dust			510.3/Procedure I	
Vibration	514.2/Procedure VIII, X	514.3/Procedure I,Cat.10	514.4/Procedure I,Cat.10	514.5/Procedure I,Cat.20,24
Shock	516.2/Procedure I,V	516.3/Procedure I,IV	516.4/Procedure I,IV	516.5/Procedure I,IV,VI

ISO9001

Sukagawa Division
Trondule Co., Ltd.
ISO9001 certification

ISO14001

Sukagawa Division
Trondule Co., Ltd.
ISO14001 certification

Vertex Standard
We make a difference

Vertex Standard
US Headquarters
10900 Walker Street, Cypress, CA 90630, U.S.A.
Phone 714/827-7600; Fax 714/827-8100
http://www.vertexstandard.com

2004.0405NA(U) B9200439 Printed in Japan